

THE ZOOLOGIST

No. 206.—February, 1894.

THE OTTER, *LUTRA VULGARIS*.

By THE EDITOR.

(Continued from Zool. 1894, p. 10).

It must not be supposed that the Common Otter, as has been asserted, is found only in fresh water. Carew, in his 'Survey of Cornwall' (1602), was quite right when he wrote:—

"The Otters, though one in kind, have yet two severall places of haunt; some keepe the cliffes, and there breede, and feede on sea-fish; others live in the fresh ryvers, and trade not so farre downe, who being less stored with provision, make bold now and then to visite the land, and to breake their fast upon the goodman's lambs,* or the good wives pultrie" (fol. 22 verso).

Topsell was in error when giving an account of the Otter, in his 'Historie of four-footed Beasts' (1607), he wrote that "the Beaver goeth both to the salt waters and to the fresh, but the Otter never to the salt," for the exact converse of this is the case.

The late Jonathan Couch, of Polperro, was able to confirm Carew's view of the Otter's haunts in Cornwall, and observed that it will go out fishing a mile from the shore in summer and during fine weather. In his 'Cornish Fauna,' commenced in 1838 (of which a second edition appeared in 1878), he remarked:—

"By far the greatest portion of these creatures in Cornwall derive their food from the sea, where they may be seen diving for fish even where the

* We have never known an instance in which a lamb was proved to have been killed by an Otter, and suspect that in any such reported case a Fox must have been to blame. That the Otter will take ducks and other fowl we have already shown.

waves are very tempestuous. Several instances are known of their being drowned in crab-pots, into which they had entered in search of prey, and had not afterwards been able to find the opening."

Upon this it may be remarked that either the crab-pots in Cornwall are much larger than we have observed them to be on the coast of Sussex, or the Otters captured in them must have been small ones.

We have a note of one that was caught from a yacht lying 230 yards from the shore, and others have been captured in fishermen's nets still further out at sea.*

Donovan once found a very young Otter alive and uninjured on a sandy shore of the Bristol Channel, and finding it so far removed from its natural haunts, supposed it had been dropped there by a Kite or other bird of prey. That was in the days when Kites were far more common in the West of England than they are at the present time.

The Otter is well known to frequent many parts of the coast in Scotland, on which account at one time it was supposed that there were two species, one inhabiting fresh and the other salt water. Sir Robert Sibbald, for instance, in his 'History of Fife and Kinross' (1710), noted that "the sea-otter which differeth from the land-otter, for it is bigger and the pile of its furre is rougher," frequented the Firths of Forth and Tay.

In Ireland, says Thompson:—

"Sea caves and holes among the rocks are resorted to by the Otter, along the northern coast, where there is no river in the neighbourhood; and some of my southern correspondents have made the same observation in reference to their districts. A gentleman residing in an inland situation considers that the species is there on the increase, in consequence of the measures now adopted to preserve the fish in rivers, and also owing to the withdrawal of rewards for Otters' heads."†

In Bell's 'British Quadrupeds' (2nd ed. pp. 178-179), some prominence is given to the opinion of the late Mr. Ogilby, who considered the Irish Otter to be a distinct species from that of England. But this opinion was expressed a long while ago (Proc. Zool. Soc. 1834, p. 111), was founded on very insufficient reasons, and, as admitted by Bell (p. 179), before Mr. Ogilby had had an

* 'The Field,' 1884, p. 560; 1886, p. 331.

† 'Natural History of Ireland,' vol. iv. p. 6.

opportunity of comparing it minutely with the Common Otter, or of examining its osteology. Under these circumstances, it is not surprising that he subsequently changed his views on the subject.*

For choice, the Otter prefers a river which contains deep pools alternating with shallows, and sandy or pebbly spits which form convenient landing places; while the hollow banks with overhanging roots of trees afford secure places of retreat in time of need. In some such hollow, under a bank, often extending in for a considerable distance, the Otter has his "holt," from which it is extremely difficult to dislodge him without the aid of terriers. In parts of the country where the river, though holding fish, offers no good abiding place, he will take up his quarters in some brake, or bed of fern or gorse, in which he will lie concealed during the day, travelling to and from the river at night, and at early dawn. Indeed we have known several cases of Otters being disturbed by a shooting party in a game-covert far away from any water.

In the Norfolk Broads, where Otters are not uncommon, and where they find plenty of good food in the shape of pike and eels, which abound there, they are obliged, from the nature of their surroundings and the general absence of banks, boulders, and overhanging hollow trees, to "lay up" in a very different fashion.†

Here their retreat by day is in the midst of some great reed-bed, where they construct a nest, almost as a Coot does, with broken reeds trodden and flattened down, paved with smaller pieces which are bitten off, and lined with the softer and drier panicles.

These curious "nests," which are peculiar to the district referred to, and are discovered by the reed-cutters, have been well described by Mr. Southwell, who, as a naturalist resident in

* See Thompson's Nat. Hist. Ireland, vol. iv. p. 6.

† We learn from a note on "Otter Hunting in Norfolk and Suffolk," contributed by Mr. M. Knight to the 'Eastern Counties Collectanea,' that in the 16th century the river Yare so abounded with Otters, that in 1557, in some regulations made by the Norwich Assembly for the freshwater fishermen between the tower at Conisford and Hardley Cross, it was provided that "every man shall be bound to keep a dog to hunt the Otter, and to make a general hunt twice or thrice in the year or more, at time or times convenient upon pain to forfeit ten shillings."

Norfolk, has had excellent opportunities for becoming acquainted with the Otter in that county.* That they are not merely nesting-places used by the Otter in the day time, is proved by their being lined with the flowering heads of the reeds, and also by the fact that quite young Otters have been found in them. Mr. Southwell (*l. c.*) mentions one found in a reed-bed near Dilham, from which four young were taken, and carried home alive; another at Hoveton Broad, from which a young one was retrieved by a dog; and a third at Barton Broad, from which the keeper took three young ones. The Ranworth keepers, he says, speak of the "Otter's nest" as "a heap of rough stuff collected together in a reed-bed."

These facts furnish a curious illustration of the marvellous way in which animals will adapt themselves to new or altered conditions of life. In less-known exotic forms such a divergence of habit might be taken to indicate a difference in species, and we have no doubt that this has frequently happened in countries vastly larger than our own, where examples of the same species have been described as distinct for no other reason, apparently, than that they have been found living a considerable distance apart under different conditions of life.

But those who have seen our Otter amidst the beautiful woods and rocks of a Devonshire river, or in a salt-water loch on the west coast, or in the dreary, treeless waste of reeds and water in a Norfolk broad, know full well that he is the same wary, watchful animal, ever on the alert, always distrustful of man, displaying wonderful adaptation of structure to habits, and extraordinary resource in self-preservation.

We hear too much of the destruction of Otters. "Capture of a large Otter" is the heading of a paragraph which appears constantly in the columns of country newspapers; and *cui bono*? Do we hear or read of any corresponding increase of fish? Not at all. If Otters were as destructive to fish as some people would have us believe, their unlimited numbers before the invention of shot-guns or steel-traps ought to have resulted in the destruction of all the fish in our rivers. But all reflective persons know that nothing of the sort has happened. The enormous rate of increase in fish, as compared with the rate of

* Trans. Norfolk & Norwich Nat. Soc. 1872-73.

increase in their natural enemies, will always result in there being enough and to spare for man and otter—aye, for king-fisher and heron, too. It is only when man, with his characteristic greed, steps in with his illegal netting, and, in season and out of season, takes fish wholesale, and prevents the salmon from ascending the rivers to the spawning-beds where they may deposit their ova and so reproduce their kind, that real mischief is done to our fisheries. *Homo sapiens*, not *Lutra vulgaris*, is the real culprit.

No one, we feel sure, who has enjoyed the pleasure of watching unobserved by him the actions of an Otter, in his natural haunts, will grudge him the toll he takes of our coarse fish, or the occasional salmon or grilse of which he deprives the angler.

We know of no writer who has more accurately or felicitously described the habits of the Otter from personal observation than the author of 'Lays of the Deer Forest,' a work replete with beautiful descriptions of Highland scenery and the wild creatures which were observed, and legitimately and scientifically hunted, by two accomplished sportsmen and naturalists.* Here is an extract:—

"One morning, having been out in the forest all night to wait for Roe in the two twilights, I came down to cross at the pool. There was a broken and dangerous ford at its throat, passable only when the water was low. I observed the track of Otters across the little sandy bank, which swelled out on the east side of the ford, and that they were going up the stream and none descending.

"In ascending a river, if the bank will admit, the Otter invariably leaves the water at the rapids, and takes the shore to the next pool; so that if there is an Otter on the stream, his up-track is sure to be found at those places. In returning, however, he will often float down the rapids with the current. The prints which I found in the sand had been made during the night. There was a *chance* that the Otters had not returned, and I climbed into an oak over the pool to see what might come down. Enveloped in the screen of leaves which the brightness of the surrounding sun made more obscure within, I had a view of the rapid above, and into the pool beyond.

"I had sat in the oak for about half an hour, with my eyes fixed on the stream and my back against the elastic branch by which I was supported,

* 'Lays of the Deer Forest; with Sketches of olden and modern Deer-hunting, traits of Natural History in the Forest, traditions of the Clans, and Miscellaneous Notes.' By John Sobieski and Charles Edward Stuart. Two vols. 8vo. Blackwood & Sons. 1848.

and rocked into a sort of dreamy repose, when I was roused by a flash in the upper pool, a ripple on its surface, and then a running swirl, and something that leaped, and plunged, and disappeared. * * * * Presently I saw two dark objects bobbing like ducks down the rapid between the two pools, but immediately as they came near distinguished the round, staring, goggle-eyed heads of two Otters, floating one after the other, their legs spread out like Flying Squirrels, and steering with their tails, the tips of which showed above the water like the rudder of an *Elbe scuiter*. Down they came as flat as floating skins upon the water, but their round, short heads and black eyes constantly in motion, examining with eager vigilance every neuk and rock which they passed. I looked down into the pool below me—it was clear as amber—and behind a large boulder of granite in about eight feet of water I saw three salmon—a large one lying just at the back of the stone and two smaller holding against the stream in the same line. They were sluggish and sleepy in the sunshine, without any motion except the gentle sculling of their tails.

“The Otters were steering down the pool, bobbing and flirting the water with their snouts, and now and then ducking their heads till they came over the stone. In an instant, like a flash of light, the fish were gone, and where the Otters had just floated there was nothing but two undulating rings upon the glossy surface. In the next instant there was a rush and swirl in the deep, under the rock on the west side, and a long shooting line going down to the rapid, like the ridge which appears above the back fin of a fish in motion. Near the tail of the pool there was another rush and turn, and two long lines of bubbles showed that the Otters were returning. Immediately afterwards the large salmon came out of the water with a spring of more than two yards, and just as he returned, the Otter struck him behind the gills and they disappeared together, leaving a star of bright scales upon the surface. * * * * The skill with which they pursued their game was like that of well-trained greyhounds in a course. Whenever they came to the throat of the pool they pressed the fish hard to make him double into the clear water, and one was always vigilant to make him rise or turn, the increased effort of which exhausted his strength. With equal sagacity, they worked him at the tail of the pool to prevent him descending the rapid. * * * * With this race the fish began to tire, and the Otters continued to press him, until at length one of them having fixed him by the shoulder-fin, he was dragged up the bank, apparently quite dead.”

After some further details, which are too long to be here quoted, the writer adds, in the spirit of a true naturalist:—

“I could easily have shot them during their hunt, and more surely when trailing the fish up the bank, for they were not thirty paces distant,

and my double gun was loaded with BB (for Roe); but the intense interest of this chase left no other thought, and I was curious to see the end of their proceedings. Finally, descending from my tree, I carried home the salmon, which weighed twelve and a half pounds."

This graphic account of the way in which an Otter hunts and kills a fish shows what keen pleasure may be derived from observation of the habits of wild animals in their natural haunts. We commend it for general perusal, but especially for the perusal of those who, knowing little or nothing about natural history, never see or hear of an Otter without thoughtlessly devising measures for its destruction.

CHOUGHES, CROWS, AND ROOKS.

BY THE EDITOR.

IN a recent number (Zool. 1893, p. 332), allusion was made to the fact that the name "Chough" was in old time commonly applied to the Jackdaw. In addition to the illustrations already given (*l.c.*) of this use of the word, it might have been mentioned that the Jackdaw was so styled by Act of Parliament.

In the year 1533 (temp. Hen. VIII.) a statute was passed, the title whereof is 'An Act to destroy Choughs, Crows, and Rooks,' and the preamble runs as follows:—

"For as much as innumerable number of Rooks, Crows, and Choughs do daily breede and increase throughout this realm, which rooks, crows and choughs do yearly destroy, devour and consume a wonderful and marvellous great quantity of corn and grain of all kinds; that is, to wit, as well in the sowing of the same grain and corn, as also at the ripening and the kernelling of the same, and do make a marvellous destruction and decay of the coverture of thatched houses, barns, ricks and other such like, so that if the said *Crows*, *Rooks* and *Choughs* should be suffered to breed and continue as they have been in certain years past they will undoubtedly be the cause of a great destruction and consumption of a great part of the corn and grain which hereafter shall be sown throughout this realm, to the great prejudice, damage and undoing of the tillers, husbanders and sowers of the earth, within the same. For remedy whereof," &c. The statute enacted that every owner and occupier of land "should do as much as in him lay to kill and utterly destroy all choughs, rooks and crows coming, abiding, breeding or haunting on his lands on pain of a grievous amercement."

Then followed numerous other provisions for the destruction of the unfortunate "*Choughs, Crows and Rooks.*"

The inhabitants of every parish were bound for the next ten years to provide and set nets in which to capture the birds, and were made liable to a fine of ten shillings for every day such nets should be wanting. A yearly meeting was to be convened of tenants, who were to survey the buildings and trees in their neighbourhood, and conclude by what means it would be easiest to destroy the young broods of the year. Any parish not complying with this regulation was to forfeit twenty shillings. By another section power is given to any person "minding to destroy the said *Choughs, Crows and Rooks,*" after request to the owner or occupier of the land where they bred, to enter thereon and carry them away "without let by the owner or occupier." The word "Chough" in this Act refers, of course, to the Jackdaw, which in former years was very generally known by that name.

By a later statute of Elizabeth, passed in 1566, and entitled 'An Act for the preservation of Grain,' the provisions of the Act of 1533 as to the keeping of "crow nets" were revived, but all the other branches of that Act repealed. By this statute power was given to churchwardens to assess the farmers in their respective parishes every year, and to expend the money thus obtained in rewards to be paid for the destruction of certain birds and animals supposed to be prejudicial to agricultural interests. A long list of rewards is fixed for heads and eggs of various "birds of destruction and noyful fowl," as, for instance, "for the heads of three old crows, choughs, pies or rooks, or of six young ones, or for six eggs, to be paid one penny." These rewards were regularly paid long after the passing of this Act.

In the old account books of the period are found entries which show that in some quarters at least an attempt was made to carry out the existing law. For example, in the Household Book kept by the steward of Squire Kitson at Hengrave Hall, Co. Suffolk,* commencing 1st Oct. 1572, we find the following entry:—

* Hengrave Hall, one of the finest Elizabethan buildings in this country, which has a history that may be called national, and which has been repeatedly illustrated in books and prints of architecture, has been sold, with 4500 acres of land, to Mr. John Lysaght, an ironmaster of Bristol.—*The Athenæum*, 7th Oct. 1893.

"1595. Oct. Nov. To the collectors of Chevington for the statute of Crows and destroying of vermin xxd."

Again, in the Churchwarden's Accounts at South Cadbury, in Somersetshire, commencing in 1590, very faded and imperfect, the following items occur:—

"1592 imprimis a Rooks nett	js.
1625 „ a Rooks nett	
1627 for mending the Rook nett	js. vjd."

In the succeeding reign, however, it would appear from a memorandum made by John Aubrey, that although the statute was still unrepealed, it was either disregarded or not strictly enforced. In his notes for a 'Natural History of Wiltshire,' written between 1656 and 1691, and edited by John Britton, F.S.A., in 1847, the following paragraph occurs:—

"In the peacefull raigne of King James I. the Parliament made an Act for-provision of Rooke-netts and catching Crows to be given in charge of Court-barons, which is by the stewards observed, but I never knew the execution of it. I have heard knowing countrymen affirme that Rooke-wormes, which the Crowes and Rookes doe devour at sowing time, do turne to chafers, which I think are our English locusts; and some yeares wee have such fearfull armies of them that they devour all manner of green things; and if the Crowes did not destroy these wormes, it would often times happen. Parliaments are not infallible, and some thinke they were out in this bill" (*op. cit.* p. 67).

We gather from this observation that the truth was then beginning to dawn upon agriculturists that the Rook, instead of being an enemy to crops, might be a useful ally in extirpating the destructive wire-worm.

The statute in question was cited as late as the year 1824, in the case of "*Hannam v. Mockett*," then tried in the Court of King's Bench.* The plaintiff in this action declared that he was "seised of a certain dwelling house with a vivary, there called a 'Rookery,'" which Rookery "was ornamental and advantageous to his said dwelling-house, and afforded great satisfaction and delight to him the said plaintiff," and he sought to recover damages against the defendant for maliciously firing guns near his Rookery, whereby the Rooks were so "disturbed and terrified"

* *Hannam v. Mockett*, 4 D. & R. 518; 2 B. & C. 934

that they "then and there flew away and wholly forsook the said Rookery." The plaintiff obtained a verdict, but the decision being appealed against, was ultimately reversed, the judges declaring, on the strength of the last-mentioned Act, that Rooks were considered by the legislature as a nuisance to the neighbourhood where they were, and that therefore no one could be held to suffer damage by being deprived of them.

As this statute, however obsolete, does not seem to have been repealed, it follows that the Rook has no legal *status* among us, but is, in the eye of the law, a trespasser and an outlaw. As these birds are not maintained at the expense of any individual or individuals, no one can have any property in a rookery built in his trees, or in the bodies of the rooks themselves if shot by a neighbour. And since they cannot be reduced into possession, they are not a subject of larceny. In other words, respecting Rooks which have their liberty (except when too young to obtain it, and then they are the property of the occupier), it has been decided, in the case above cited, that an action does not lie for shooting them, at the suit of the owner of the rookery, whether they are within or outside it, since they are not protected by the common or statute law.

As to the kind of net formerly known as the "Crow-net" or "Rook-net," a figure of it is given by Leonard Mascall in a folding-plate to his 'Booke of Fishing' (1590).*

It is thus described by Gervase Markham, in his Art of Fowling, 1621:—†

"Now for the generall way of taking these Land Fowle where many kinds are taken together, it is either to be done by day or night; if by day, then with the great net which commonly is called the Crow Net, which either is made of double twisted thred, or fine whip packe-threed, and it differeth nothing in length, depth, bignesse of mesh, manner of laying and

* A Booke of Fishing with Hooke and Line, and of all other instruments thereunto belonging. Another of Sundrie Engines and Trappes to take Polecats, Buzards, Rattes, Mice, and all other kindes of vermine and beasts whatsoever, most profitable for all Warriners and such as delight in this kinde of Sport and Pastime. Made by L. M. [Woodcut of fisher and fowler.] London. Printed by John Wolfe, and are to be solde by Edward White dwelling at the little North doore of Paules at the signe of the Gunne. 1590. sm. 4to.

† Hunger's Prevention or the whole Arte of Fowling by Water and Land. 12mo. London, 1621.

overturning from the Plover Nette (formerly spoken of in the Water Fowle), only if it be larger and the coards longer it is not amisse, this Net being before or neere unto Barn doores where Corne is a thrashing, or in any such place where Corne hath beene winnowed and the chaffe remaining, with which you shall ever observe to cover and hide the net as soone as it is laid, so as it may not be seen, and then as soone as the flockes of birdes come, and are scraping amongst the chaffe, you lying aloofe off conceald, with the coard in your hand, shall sodenly draw it and overturne the net upon the Birds, by which at one pull you may take many Crowes" (p. 90).

This description has been paraphrased by Nicholas Cox, in his 'Gentleman's Recreation' (1674),* in the section "Of Fowling," without any acknowledgment of the source whence he derived it.

"The general way of taking these Land-fowl of several Sorts together, is either by Day or by Night. If by Day, it is done by the great Net, commonly called the *Crow-net*, and not at all differs in Length, Depth, bigness of Mesh, manner of laying, etc. from the *Plover-net*; only it will not be amiss if the Cords be longer.

"This net you may lay before Barn-doors, or where Corn hath been winnowed, also in Stubble-fields, so concealing the Net that the Fowl may not discern the Snare. When you perceive a quantity within the Net scraping for Food, and you lie concealed afar off, with your Cord in your Hand, suddenly pull the net over them."

The chief time for using this net would seem to be in the winter months, or at all events after harvest time, when the fields have been cleared. Richard Blome, in his 'Gentleman's Recreation,' a fine folio printed in 1686, thus describes (p. 145) "how to take wildfowl with a net called a *Crow-net*":—

"There is an Invention for taking *wild Fowl* in Winter with the *Crow-net*, which may be used in the Day time. It is made of double twisted thread, or fine packthread; the Meshes should be two Inches wide, the length about two Yards, and three in depth; It must be verged on the sides with good strong cord, and extended out very stiff upon long poles made for that purpose.

"When you are on the place you intend to spread your net, open it, and lay it out at its full length and breadth; then fasten the lower end of the net all along on the ground, so as only to move it up and down. The

* 'The Gentleman's Recreation; in four parts, viz. Hunting, Hawking, Fowling, Fishing.' There have been numerous editions of this book (1674, 1677, 1686, 1697, 1706, and 1721), which was at one time exceedingly popular, though only a compilation, and is even now esteemed by collectors.

upper end of the net should stand extended on the long cord, the further end thereof being staked fast to the earth by a strong cord about five yards distant from the net, which cord place in an even line with the lower edge of the net; the other end of the cord must be at least twenty-five yards, to reach unto some natural or artificial shelter, by the help of which you may lye concealed from the fowl, otherwise you can expect no good success.

"Your net must be in that exact order that it may give way to play on the fowl upon the least pull of your cord, which do smartly, lest the fowl be too quick for you.

"This device may be used for Pigeons, Crows, or the like, in corn-fields newly sown; as also in stubble-fields, provided the stubble conceal the net from the fowl. It may also be used for small birds, at barn-doors; but then lay for them some train of corn or chaff to entice them to the net lying concealed.

"This *Crow-net* may also be spread to great pleasure and profit in the mornings and evenings, where you know their haunts are; at which times in hard weather Fowl use to fly in great flocks to and from the land, with and against the wind; and then they fly close to the ground in open countries and low lands, which generally are not full of inclosures; and when they are within reach of your net, let go, and it riseth over them, and brings them back to the ground with a notable blow."

The author of 'The Sportsman's Dictionary, or the Country Gentleman's Companion,' 2nd ed., 8vo, London, 1744, after giving a description of the *Crow-net*, evidently borrowed without acknowledgment from one or other of the writers above quoted, adds:—

"The *Crow-net* may also be spread to great advantage and pleasure in the mornings and evenings, where you know their haunts are, at which time in hard weather fowl are wont to fly in great flocks, to and from the land, with and against the wind, and then they fly close to the ground in open countries and low lands, and when they are within reach of your net, let go and it will rise over them, and bring them back to the ground with a smart blow."

This net, in point of fact, much resembles the modern *plover-net*, which has been minutely described and figured by Sir R. Payne Gallwey in his 'Fowler in Ireland' (1882, p. 185).

Indeed, an Irish plover-catcher, still living, has declared that with this form of net he can catch Rooks when flying low against the wind.

In these more enlightened days, however, the persecution of Choughs, Crows, and Rooks is not only *not* enforced by statute, but Rooks at all events have come to be regarded with some

favour, as their natural habits and the nature of their food have become better understood.

Not many years ago it was the practice amongst farmers in some parts of the country to scatter poisoned grain broadcast, for the purpose, as they alleged, of destroying the Rooks, which they imagined to be hurtful to their crops. In this they were mistaken, for the evidence of ornithologists has sufficiently demonstrated many ways in which the Rook is useful to agriculturists; and the short-sighted policy of the farmers, resulting as it did in the wholesale poisoning of Partridges and Pheasants, the legislature had to interfere, and an Act of Parliament was passed in 1863, by which the use of poisoned grain was declared illegal.* The recently published 'Report of the Departmental Committee appointed by the Board of Agriculture to inquire into a Plague of Field Voles in Scotland' (1893), contains evidence of the repeated admissions by Scottish farmers that Rooks not only do good by devouring destructive larvæ, but are extremely useful in destroying large numbers of Field Voles, especially in the young stage, when they are found in the nests, which are systematically sought for and dug up.†

It seems strange that it should have taken 360 years to bring about this revulsion of feeling in the case of a bird which, being sufficiently familiar and everywhere common, may be so easily studied by those who will take the trouble to observe its habits.

NOTES AND QUERIES.

MAMMALIA.

Food of the Otter.—In the interesting article upon the Otter in the last number of 'The Zoologist' (p. 1), I see no reference to this animal's fondness for the common cray-fish, though another member of the same genus is mentioned as preying habitually upon a large spiny crab. Last spring, on the bank of a river not far from here, in which Otters were numerous (to judge from the evidence they left of themselves), I gathered up, and still have, a large handful of their dried droppings, which I found

* 'The Poisoned Grain Prohibition Act,' 1863, 26 & 27 Vict. c. 113.

† See the Index to the Report, under "Rooks."

were composed in about equal proportions of the remains of cray-fish and small fishes.—MILLER CHRISTY (Pryors, Broomfield, near Chelmsford).

Unusual abundance of the Bank Vole in 1893.—The Bank or Red Vole, *Microtus glareolus*, is generally supposed to be a somewhat rare animal, at least as compared to its brown relative the Short-tailed Field Vole, *Microtus agrestis*, and its occurrence in this or that county has been from time to time noticed in 'The Zoologist,' a distinction which has probably never befallen *agrestis*. During the past year, however, it seems to have been surprisingly abundant everywhere, for of a large number of Voles trapped and sent to the Natural History Museum by various friends who are aiding in the formation of a better collection of British small mammals, the majority have proved to belong to the Red species. Thus, beginning northward, of about thirty Voles sent from Elgin by Mr. W. R. O. Grant, all but two were *glareolus*; all those obtained in Cumberland by Mr. J. Paul, by Mr. E. W. H. Blagg in Staffordshire, by myself in Middlesex, and by Mr. R. J. Pocock in Dorsetshire, proved to be the same, while in the Isle of Wight I found the two species apparently equally numerous. All these collectors were trying to procure as many specimens as possible, irrespective of species. This reversal of the usual relative frequency of the two species seems worthy of mention in 'The Zoologist,' even though it may possibly be explained by the presumption that in order to conceal the traps more effectually they may have been placed oftener in hedges and copses than in the open fields, where *agrestis* is generally to be found. A second disturbing factor may be a difference in the readiness with which the two species will enter traps. The relative frequency of the different small terrestrial species may be a little gauged by the fact that the above-named five collectors, without special local knowledge, setting traps hap-hazard in likely places, caught about sixty *Mus sylvaticus*, fifty *M. glareolus*, ten *Microtus agrestis*, thirty *Sorex vulgaris*, one *S. pygmaeus*, and one *Crosopus fodiens*, in the course of the summer and autumn. No dormice or harvest mice were obtained. Any readers of 'The Zoologist' who may be able and willing to contribute specimens to the National Collection should send them to the Museum by post as soon as possible after they are caught.—O. THOMAS (Natural History Museum, Cromwell Road, S.W.).

Bank Vole in Oxfordshire.—Last December (1893) one of my nephews, at my instigation, began to trap field mice at Bodicote, and on the 29th he caught a male Bank Vole. Some time ago I picked up a partly-decomposed specimen at Bloxham; but I have never hitherto made any especial search for this species in Oxfordshire, and although, from its distribution in England, there is every probability of its being fairly common with us, I believe this is the first published record of its occurrence in this neighbourhood.—O. V. APLIN (Bloxham, Oxon).

BIRDS.

The Black Guillemot on the Solway Firth.—In 'The Zoologist' for October last, Mr. J. J. Armistead records (p. 295) the capture of a Black Guillemot on the Solway Firth, and states that it is only the second specimen he has seen there in seven years. It is certainly a species of considerable rarity within the actual limits of the Firth (that is within a line drawn betwixt Balmae Head and St. Bees), and I can only add two occurrences to that of Mr. Armistead's. Both of these were defunct examples noticed amongst the Common Guillemots, Razorbills, and Puffins, which at times strew the Solway shores—victims of some mysterious epidemic or more than usually severe storm, which now and again has destroyed these birds in thousands. Outside the Firth proper, but still within the Solway area, I do not think the Black Guillemot is so rare as is generally understood. I have been informed on reliable authority that it is pretty regularly seen at the breeding-place of the Common Guillemots at the Ross at the mouth of the Dee. The last time I was at the Scaur Rocks, which lie at the entrance to Luce Bay, midway betwixt Burrow Head and the Mull, a pair of Black Guillemots flew about during the three or four hours I was on the Big Scaur. The time was the last week in May, and I formed the strong opinion that this pair of Black Guillemots was nesting there. I know that towards the west of the Mull the Black Guillemot is an almost daily visitor in summer, and it would be strange if this were not so, for the species breeds at Ailsa Craig, and also at Rathlin Island, while it is generally understood that there is still a small breeding colony on the Isle of Man.—R. SERVICE (Maxwelltown, Dumfries).

Introduction of Red Grouse into N.W. Germany.—In the illustrated German sporting journal, 'Der Waidmann,' of the 13th October last, Count Kniphausen gives an account of his attempts to introduce Red Grouse from Scotland upon his domain in East Friesland, where an extensive tract of heather seemed to favour such an experiment. He says:—"In the autumn of 1891, I ordered from a game-dealer in England five pairs of live Grouse for my game-preserves near Wittmund in East Friesland, as an experiment in the way of naturalising this foreign game-bird with us. My prospects regarding this attempt did not appear to me unpromising, as I could offer the birds on my sporting domain freedom from disturbance, plenty of water, heather, and various berry-bearing plants, and patches of buck-wheat, to all of which these birds are said to be partial. The Grouse were transported across the North Sea in November. They were sent from Scotland *via* London and Flushing, the consequence of which was that, by reason of the long railway journeys, the birds suffered very much, and succumbed, chiefly, I fear, from want of water—at any rate, I only received one pair alive on their arrival at their destination. I had taken pains beforehand to erect for them, in a thicket, an aviary of wire-

netting, with canvas overhead, provided plentifully with water and buckwheat, and with the wire-netting stuck full of sprigs of heather, partly so that they might feel themselves more hidden, but chiefly because I understand that heather-tops are their chief source of nourishment. After a few days' rest, I had one of the sides of the enclosure raised, so that the Grouse might go out of their own accord. In the spring of 1893, I was rewarded by coming across the cock grouse in the company of a black cock on my preserve and had the pleasure of listening to his call. It also came to my knowledge that the hen was alive, and that she had incubated for about fourteen days, though too late in the year, for it was during the harvesting of the buckwheat that she was disturbed by the mowers. The cock and hen both flew away, and the hen, alas! never sought her nest again. The eggs, fourteen in number, I have preserved. This delightful discovery, that a pair of Grouse had lived all but two years on my property, and had even made a good attempt to rear a brood, made me resolve to go on with my experiments. The dealer to whom I addressed myself undertook, for twenty marks the pair, to deliver ten brace of Grouse to me, and we came to an understanding that he should send them at my cost from Hull to Bremen, that he should undertake their being carefully secured in boxes made expressly for the purpose, and that he should not be bound to make good any losses that might occur. Messrs. Weltmann, in Hull, who forward goods for the North German Lloyd's Company, kindly undertook the delivery of them, and promised to see that they did not want for food or water on their thirty-hours' sea voyage, and thus, to my joy, my gamekeeper, whom I had sent to Bremen to fetch the birds, was enabled to deliver to me the whole lot of seven brace (more were not to be had at the time), without loss or damage. The birds this time flew strongly when let out in their enclosure, but did not hurt themselves, owing to the canvas spread over the top. My sporting neighbours all belong to the Prussian and Oldenburg Forest and Moor Game Preservation Societies, to both of which I successfully applied, and they have, as before on the introduction of black-game, promised that for some years to come the protection of these Grouse shall be looked upon by them as a strict duty. So it is to be hoped that this attempt to naturalise them in the plains of North-West Germany may succeed, as it did with the black game, which had for many a long year been extinct there."

Notes from Greenland.—During a short sojourn, in January, 1893, in Copenhagen, I visited the Zoological Museum of that town, and noted some new acquisitions from Greenland. As 'The Zoologist' contains an extended report of my little book, 'The Birds of Greenland,' I think the readers will like a short record of the novelties I saw. The most recent acquisition of the Museum was a collection of bird-skins from Eastern Greenland north of 65° N. lat., collected by the Danish Expedition, which had recently returned from these tracts. I hope that eventually we may

have a detailed account of the Expedition, but as it surely will not come in a near future, I think a summary of the chief results will be acceptable. The most remarkable were two skins of *Anser segetum*, both taken in June, 1891 (as far as I remember on the 5th and 17th). This makes it probable that it breeds there. So far as I know, these are the first examples taken in Greenland or in America; but as the species commonly breeds in Iceland, it is perhaps remarkable that it has not long ago been met with in Greenland. I also saw a downy young of *Branta leucopsis* only a few days old. The exact place of capture of this and of the two *A. segetum* I cannot state precisely—only that it was about 70° N. lat., on the eastern shores of Greenland. Amongst other things which I saw, under the guidance of the Inspector of the Museum, Mr. H. Winge, was a skin from Greenland of the European *Hirundo rustica* (which I had not ventured to include in my 'Birds of Greenland'). *Somateria V-nigra*, also, must now be admitted as a bird of Greenland. I saw five skins from Godhaab, in South Greenland, taken by Mr. Krabbe. The V-marks of Nos. 1 and 2 were very distinct, as in *S. spectabilis*; in No. 5 the mark was not continuous, but consisted of only a few black feathers, which nevertheless were distinctly V-shaped. Nos. 3 and 4 were in transition between Nos. 2 and 5. That they could be hybrids between *S. mollissima* and *S. spectabilis* is quite out of question; sooner might No. 5 (and perhaps Nos. 4 and 3) be hybrids between *S. mollissima* and *S. V-nigra*. In all things—but the V-mark—they seemed to me to be perfectly like *S. mollissima*, and the transition observable in the skins might indicate that *S. V-nigra* is not a well-defined species. In conclusion, I may state that in a lot of bird-skins which I have got from Greenland, there is a skin of an adult *Crex pratensis* taken by Sükkertoppen in South Greenland on May 11th, 1892; on the label it is stated to be a male.—A. T. HAGERUP (Kolding, Denmark).

Mortality amongst Short-eared Owls in Scotland.—With the collapse of the Vole-plague, the great horde of Short-eared Owls which concentrated their numbers on the Vole-infested tracts in 1892-93 disappeared in November last. On some of the farms where fifty—or even more—pairs might easily have been counted, it is doubtful if even one pair remained on Nov. 13th. Here and there an odd one might still be found, but these were in most instances quite away from the places so sorely ravaged by the Vole myriads. Within the last fortnight of November I was shown a pair of Short-eared Owls, one of which had been shot as it flew from a tree. On going to pick it up another one was found lying dead just underneath where the first one had been perched. Both were in the last stage of emaciation. A curious fact—which shows how the working of natural laws is always in the direction of keeping down the undue predominance of any particular species—came under my notice the other day in reading a very interesting article in the 'Annals of Scottish Natural History,' by Mr. Peter Adair:—

A fox on Howpasley was suspected of a liking for lamb, and its earth was dug up. Besides a quantity of Grouse, Black-game, Partridges, Ducks, Curlew, Plover, Rats, Voles, and Lambs, the earth contained no less than seventy-six dead Short-eared Owls. Eight of these were old birds, and the remainder unfledged young. Of course, the nests of the Short-eared Owls being placed on the ground amongst the heather and long grass, the helpless young would fall an easy prey to a prowling Fox. One could hardly have suspected that Owls would have had any serious enemy except man himself.—ROBERT SERVICE (Maxwelltown, Dumfries).

Range of the Mediterranean Herring Gull, *Larus cachinnans*.—Mr. Backhouse, in his 'Handbook of European Birds,' quoting Mr. Seebohm, writes of this yellow-legged species:—"Resident in the Mediterranean and Black Seas, and ranges eastward through the Caspian and Aral Seas to Lake Baikal and the valley of the Amoor." But he makes no mention of its occurrence on the Atlantic seaboard. It may therefore be worth while to report that while we were coaling in quarantine at Madeira, on the 8th September, 1892, I had good opportunities all day of observing a little flock of yellow-legged Herring Gulls, which appeared to get their living chiefly from the leavings of ships putting in there. Also that on the 28th June, 1893, in the beautiful bay of Vigo (again, alas! under the yellow flag), a number of these gulls, young and old, were feeding on the bread, banana, orange-peel, and other *debris* thrown overboard after lunch, and enabled me to watch them at my leisure at close quarters. The yellow legs are very noticeable in the adult, but in the immature birds the legs are flesh-coloured. The cry was similar, to my remembrance, to that of our English Herring Gull.—O. V. APLIN (Bloxham, Oxon).

Green Woodpecker pursued by Sparrowhawk.—A few days before Christmas my gamekeeper was surprised to see a Green Woodpecker fly towards him, and pitch upon the trunk of a tree near which he was standing, without showing the slightest fear of his presence. It was closely pursued by a Sparrowhawk, which would doubtless have seized it had it not caught sight of the keeper and sheered off. Curiously enough, that very week the same man saw another Green Woodpecker chased by a Sparrowhawk. One would have supposed that the rapid undulating flight of a Woodpecker, now rising, now falling like a dart, would have quite baffled a hawk.—J. C. MANSEL PLEYDELL (Whatcombe, Blandford, Dorset).

Barred Warbler in Yorkshire.—An example of the Barred Warbler, *Sylvia nisoria*, was shot at Kilnsea, in Holderness, by Mr. G. E. Clubley, on the 13th November last, making the third reported occurrence of this species in that district. The first was obtained at Spurn by the Rev. H. H. Slater on the 28th Aug. 1884 (Zool. 1884, p. 489), and the second at the same place on the 19th Oct. 1892 (Zool. 1892, p. 424). It was first added to

the list of British birds by Prof. Newton on the acquisition of a specimen near Cambridge (Proc. Zool. Soc. 1879, p. 219), and it has also been met with twice in Norfolk (Zool. 1884, p. 493; 1889, p. 135), in Lincolnshire (Zool. 1892, p. 424), and in Co. Mayo (Zool. 1890, p. 310). Its occurrence, therefore, as a straggler from Europe to the British Islands seems to be fairly well established.—J. E. HARTING.

Swimming Powers of the Water Ouzel.—Perhaps the following, taken from my note-book on April 22nd last, may add further interest to the editorial note on this subject (pp. 23–24). Having found a nest of five young Dippers, I proceeded to take them, when one of them fluttered from the nest—which was built under the mossy stones of a small waterfall—into the stream below. Hurrying quickly down to save it, as I thought, from a watery grave, I was astonished to see it immediately dive, and swim under water with ease (chiefly with the use of its wings) to some stones at the water's edge, some eighteen to twenty feet distant. Making a feint to capture it, again it dived, and swam some three feet more before coming to the surface, and thus again and again did it dive to avoid my outstretched arm; but at last, not endeavouring to cross the pool, I restored it to its mossy home to wait until its pin-feathers should grow sufficiently before another venture, and then probably an aerial instead of an aquatic flight.—J. S. ELLIOTT (Dixon's Green, Dudley).

Nesting of the Spotted Flycatcher.—Referring to Mr. Whitaker's note in 'The Zoologist' for December last (p. 459), I may state that I have twice found the nest of this bird placed in a similar situation, both instances being in Highgate Woods six years ago. The first nest was placed in an open situation in the fork of a branch of a little crab-tree, and only four feet from the ground; it was the most perfect nest of the species I have ever met with. The second nest was in a fork in the centre of a hawthorn, and about five feet from the ground. The fork had previously held a Chaffinch's nest, which some one had removed, and the Flycatcher's nest was placed upon the remains of it. The majority of Flycatchers' nests I have seen have been placed against the trunks of oaks, or sometimes upon horizontal limbs. I have found one nest of this species in a hole in a pollard-willow, as far in as a Redstart would go, and another in a disused nest of the Blackbird, eleven feet up in the side of a haystack.—H. K. SWANN (Euston Road, N.W.).

A Brood of White Swallows.—During the past summer a brood of four white Swallows, *Hirundo rustica*, was reared in a shed at Bere Regis. Of these at least three survived as late as the month of October, when I saw them on Deverell Down in company with several other Swallows. They were apparently then congregating previous to migration, and I have little doubt that they contrived to leave the country unharmed.—J. C. MANSEL PLEYDELL (Whatcombe, Blandford, Dorset).

Lapland Bunting in Sussex.—The Lapp Bunting is a much commoner bird in the southern counties than many ornithologists suppose. For example, a few have been annually taken near Dover for the last dozen winters. Last year (1892) was an *annus mirabilis* for this species in Southern and Eastern Britain. This season, on the other hand, Lapp Buntings have been rare in Sussex; and although the birdcatchers know them well, only three were caught near Brighton in November. Two of these, fine strong male birds, were sent to me. Others have been taken near Dover as usual.—H. A. MACPHERSON (Carlisle).

Black Guillemot inland in Dorsetshire.—A bird of this species was driven inland by the storm of Dec. 19th, and was picked up alive on the following day at Milborne St. Andrew, a distance of sixteen miles from the sea.—J. C. MANSEL PLEYDELL (Whatcombe, Blandford, Dorset).

Snipe affected by Soot.—During the last frost, two letters appeared in 'The Times,' recording discoloured snow, and one of these attributed the discoloration to London smoke, although the writer lived at a considerable distance from London. I remember that I observed, when Snipe-shooting some years ago, that all the Snipe that I killed had their under parts discoloured, apparently by soot, and this was the case from about November till January. To the best of my recollection this happened in more than one season, and it must have been between 1877 and 1887, because the keeper who was with me when these sooty breasts puzzled us, was in my service during that period. I have never seen it since, however, although I have shot over the same beat more or less every year since. Can this have been London smoke also? The distance as the crow flies cannot be less than fifty miles from London, probably more. Certainly these birds may have soiled their breasts in some marshes nearer London, before they visited the district; but it seems odd that it has not occurred since those years.—W. OXENDEN HAMMOND (St. Alban's Court, near Wingham, Kent).

Uncommon Birds in Sussex.—Since writing to you about *Larus minutus*, I have seen three other specimens in the flesh, all of which were shot in this neighbourhood. One of these was an adult male, the others immature. The adult was shot on the 8th inst., on the coast between Hastings and Bexhill. The plumage was in good order, but the bird was in poor condition, weighing but four ounces. The feet and legs were of a coral-red colour, and not dark as in the immature birds. On the same day, as I learn from Mr. Bristow of St. Leonards, an adult male Kentish Plover was shot in this neighbourhood, and four Sheldrakes appeared on Pett Levell, one of which was shot. The thermometer on that day registered seventeen degrees of frost.—G. W. BRADSHAW (Hastings).

Wildfowl on the Sussex Coast.—You may perhaps like to insert in 'The Zoologist' a notice of various wildfowl which were obtained along the

Sussex coast during the late frost, with their respective measurements. An adult male Goosander, in splendid plumage, with very rich salmon-coloured breast, was shot at Havant on Jan. 8th. The shooter said it looked like a ball of fire coming towards him. Scaup with us have been the commonest of ducks. We have had some splendid males killed on our Sussex coast; also Mallard, Tufted Duck, and Merganser. A female Velvet Scoter was picked up alive in Mill's Terrace, West Brighton, in an exhausted condition after the severe weather. Snipe and Jack Snipe have been unusually abundant throughout Sussex, and several have been picked up dead. Teal, Brent Geese, Knots and Godwits have been shot on and near the river Adur. Bramblings and Wood Larks have occurred in small flocks. Most of the birds obtained appeared to be in good condition. We have taken weights of a few of the Ducks for you as follows:—Goosander, male, 3lbs. 13oz.; Scaup, adult male, 2lbs. 1½oz.; ditto, 2lbs. 3oz.; ditto, 2lbs. 4oz.; ditto, young female, 2lbs. 1oz.; Velvet Scoter, female, 1lb. 10oz.; Mallard, male, 1lb. 13oz.; Merganser, male, 1lb. 7oz.; Tufted Duck, male, 1lb. 12 oz.—PRATT & SONS (Brighton).

English and Irish Jays.—As I am in want of a few Jays (both English and Irish) for purposes of comparison, might I ask readers of 'The Zoologist,' who live in parts of the country where these birds are plentiful, to kindly send me one or two specimens, the receipt of which will be at once acknowledged.—G. E. H. BARRETT-HAMILTON (Trinity College, Cambridge).

Lapland Bunting in Lincolnshire.—The Lapland Bunting, *Plectrophanes lapponicus*, has appeared this winter on the Lincolnshire coast in considerable numbers. I first met with a flock at North Cotes on Dec. 21st, but they were so excessively wild that I was unable to identify them with certainty on that account, or to shoot a specimen. On the following day, however, with a south gale and heavy rain, I found the flock feeding under shelter of the sea-bank, and killed four at a shot, and shortly afterwards another single bird near the same place. This flock numbered from twenty to thirty birds, but subsequently I found many small parties of from two or three to half a dozen, scattered about amongst flocks of Larks in the vicinity. I saw this Bunting frequently up to Jan. 4th, the first day of the recent severe weather. On that day we had a violent easterly gale, with ten degrees of frost and a little snow. I saw at once that the Lapp Buntings had received a considerable accession to their numbers, and there must have been quite one hundred of them on the coast. I did not visit this locality again until the commencement of the thaw on Jan. 9th, and then saw two single birds only, both of which I shot. Since that date I have gone round all their old haunts several times without seeing a single individual. Probably the hard winter had driven them further south. While here they frequented grass land and young wheat; also the heaps of

rubtish thrown up by the tide on the edge of the saltings, invariably in company of Larks, the flocks sometimes containing a few Snow Buntings, Greenfinches or Reed Buntings. They appeared to perch even less frequently than the Snow Bunting, and I only once saw them alight on a hedgerow.—G. H. CATON HAIGH (Grainsby Hall, Great Grimsby, Lincolnshire).

Ostriches taking to the water voluntarily.—In your review of the 'Dictionary of Birds,' you quote Darwin and Dr. Cunningham in support of the fact of the American Rhea taking to the water voluntarily. I can give another instance of its doing so. On the 25th November, 1892, while riding along a river in Uruguay, which just there was free from "monte" in places, I saw about a dozen Rheas swimming across a broad laguna, perhaps rather wider than the Isis at Oxford. The habit is not common, I believe, for a river boundary is usually looked upon as an effective check to the bird's wanderings. The weather was very hot and dry at the time, and this little flock of Ostriches had probably crossed the river in the hopes of finding better pasture, and were going home again disappointed, as I know they belonged to a camp on that side of the river for which they were making.—O. V. APLIN (Bloxham, Oxon).

Early Mention of the Waxwing in England.—Although well known to Sir Thomas Browne, who (as pointed out by Professor Newton in the fourth edition of Yarrell's 'Birds') noticed this species in a letter to Dr. Merritt, dated Sept. 13th, 1668, the earliest record of its appearance in England seems to be that of two specimens which were killed near York in January, 1680 (old style), and which are described and figured in the 'Phil. Trans.' 1685 (p. 1161, fig. 9), by John Ray, from information supplied to him by Dr. Martin Lister. It is interesting, therefore, to find a record almost as early, if indeed it does not refer to the same year, no precise date being given, in the recently published Thirteenth Report (Append. Pt. 2) of the 'Historical Manuscripts Commission.' In that portion which relates to the MSS. at Welbeck Abbey (pp. 295-6) we find that Thomas Baskervill, in some notes on a journey from Oxford to Gloucester, in January, 1682-3, referring to Hosbury Bridge, four miles from Gloucester, writes:—"Here Thomas Stevenson did kill a strange bird [date not mentioned], which none in the country hereabout or elsewhere had seen before. This strange bird having another by it on the tree where we killed it, is near upon as big as a Wind-thrush; * upon the head and bill, which something resembles that of a Bull-finch, it hath a fine tuft of feathers of a cinnamon colour; the feathers of the neck, breast, back, and part of the

* 'Wind-thrush,' the Redwing; so called in Ireland (Rutty, 'Nat. Hist. Dublin,' 1772) and 'Winnard' in Cornwall (Couch, 'Hist. Polperro'). Doubtless a corruption of Wine-thrush (Germ. *Wein-drossel*), from its fondness for frequenting the vineyards.—ED.

wings, something darker; the upper part of the tail where the feathers join to the body is ash-coloured, then a ring of black, and on the extreme part of the tail-feathers a ring of aurora flame, or gold colour, but under the tail a perfect cinnamon. The prime flying feathers of the wings are curiously diversified, for upon each wing, whose feathers are for the most part black, are white spots, answerable to each other. Then the extreme points of nine of the longest pinion-feathers are tipped with white and lemon or gold colour; the lesser pinion-feathers, which are seven in number, are tipped with white, and the extreme part of these seven feathers on each side are of a pure vermillion colour, but these vermillion tips are no feather, but of the nature of the stem of the feather, though dilated broader at the ends." This accurate and extremely intelligent description of the Waxwing (*Ampelis garrula*) makes it regrettable that so capable an observer as Mr. Thomas Baskervill did not devote more of his Journal to the birds which he met with in the course of his itineraries, which, though full of interest, give what in the present day we should consider an undue prominence to the excellence of the inns at which he "lay" and the good cheer which was there to be obtained.—T. SOUTHWELL (Norwich).

Red-breasted Snipe in Ireland.—On October 11th, 1893, I received from County Tipperary, Ireland, an adult female of the Red-breasted Snipe, *Macrorhampus griseus*, changing to winter plumage. Professor Newton, who has examined this bird, gives its dimensions as—bill, 2·65; tarsus 1·5; wing, 6. It will be seen that these measurements closely approach those of the supposed western form, but it seems to me that eastern and western forms cannot be with certainty distinguished. Lord Lilford has had a figure of this specimen drawn for his 'Illustrations of British Birds.'—F. COBURN (Holloway Head, Birmingham).

Common Scoter in Warwickshire in August.—On August 7th, 1893, Mr. H. C. Grove shot a Common Scoter, *Edemia nigra*, on Powell's Pool, Sutton Park, Warwickshire. The bird is apparently an immature male, but it had been roughly skinned, and the skin was nearly putrid when I got it, so that I cannot positively state the sex. The date seems a most extraordinary one for this bird to be found at such a spot. Mr. Grove suggested that it had probably been bred in the park, but there is no proof whatever to support this supposition. No other birds of its kind were seen in the pool, but later Mr. Grove shot a female Pochard. This is the first record I have of the Common Scoter for Warwickshire.—F. COBURN.

Uncommon Birds in the Isle of Man.—Mr. G. Adams, taxidermist, of Douglas, Isle of Man, has shown me a Little Auk, *Mergulus alle*, which was sent him from Peel, for preservation, in the last week of December. It displays a considerable amount of dark mottling on the lower part of the front of the neck. He has also a Grebe which, from its medium size and

short straight beak, I take to be *Podiceps auritus*. This specimen was obtained in a trammel-net at Derby Laver, also toward the end of December. It is a very pure dark and white plumage, with no trace of tufts about the head. The Goldfinch, *Carduelis elegans*, a bird which, though twenty or thirty years ago abundant, has lately been very scarce, is again showing itself more commonly in various districts this winter. On Christmas-day I saw at Tromoole, one mile from here, a flock of some seven or eight Long-tailed Tits, *Acredula rosea*. This appears to be only an occasional visitor to this island.—P. RALFE (4, Queen's Terrace, Douglas, I.M.).

Wildfowl on the Norfolk Coast.—On Jan. 12th I received in the flesh from Hunstanton, Norfolk, a female Eider and a Black Guillemot, and, a few days later, a fine mature male Long-tailed Duck, the first fully adult drake I ever saw in the flesh, though females and young males are common enough. All these birds were shot off Hunstanton during the severe weather, and I am indebted for them to the kindness of Dr. Whitby, of Hunstanton, St. Edmunds. In addition to locally-shot examples of the birds mentioned above, that gentleman's interesting collection contains, among other rarities, examples of the King Eider, Gull-billed Tern, Iceland Gull, and Sand Grouse shot in 1863 and 1888, all obtained within a few miles of Hunstanton.—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

Little Auk in Co. Sligo.—On the 27th of December last I received a fresh specimen of the Little Auk, *Mergulus alle*, which was found alive about four miles from the sea, but died shortly after capture. Another specimen was shot on Lough Gill, Co. Sligo, and is now in the possession of Mr. Owen Wynne, Hazelwood, Co. Sligo.—R. M. CLELLON (Castle St., Sligo).

Turtle Dove Breeding with Common Dove in Confinement.—*A propos* of the note on Ring Dove pairing with Domestic Pigeon (p. 23), I may state that a male Common Dove, which I have had in my aviary for some time, paired with a female Turtle Dove, and successfully reared two hybrids. I would like to know if it is a common occurrence. The Dove which I have called the Common Dove is the ordinary cream-coloured bird with black ring round neck, which is commonly kept in confinement. The female is the wild Turtle Dove, *Turtur communis*.—W. WILLIAMS (19, Garville Road, Rathgar, Dublin).

REPTILES.

Curious Accident to an Adder.—A few years ago I killed an Adder, *Pelias berus*, under singular circumstances. I was walking down a hedge-row in the company of two of my brothers, when we saw an Adder glide over a bank a few yards in front of us. When we got to the spot we were surprised to see it hanging by the throat to the spike of a male bramble. We watched it for some time making frantic efforts to escape; it was, how-

ever, so firmly fixed that I had time to fetch a pair of sheep-shears from a farmhouse about a mile away, with which I cut off its head, as we wished to see how deep the prickly had penetrated. The bramble was about a yard from the bank, and where the Viper was hanging was about 2 feet from the ground. It seemed to us that the Adder must have made a spring from the top of the bank. This occurred at Crowboro' Warren, Sussex.—R. H. RAMSBOTHAM (Beetham, Milnethorpe).

CRUSTACEA.

The Crayfish.—Last December, whilst dissecting the Common Crayfish, *Astacus fluviatilis*, I had one, a female, with *three* genital pores, the extra one being on the thirteenth appendage, or third leg (according to Prof. Huxley's nomenclature) on the left side (or right side when on its back); the oviduct leading to these two was bifurcated just before the entrances to the pores, and the ovaries were full of ova. I preserved the specimen, but unfortunately spoilt the dissection of the oviduct in trying to preserve it.—J. N. SMITH (30, Shooters Hill Road, Blackheath, S.E.).

SCIENTIFIC SOCIETIES.

LINNEAN SOCIETY OF LONDON.

December 21, 1893.—Prof. STEWART, President, in the chair.

Gen. Sir H. Collett and Mr. H. H. Johnson were admitted, and Messrs. G. E. Greene and A. G. Tansley were elected.

Mr. P. L. Simmonds exhibited a collection of New Zealand mosses found by Mr. G. W. Simmonds while surveying in H.M.S. 'Pandora.' Mr. Murray offered some critical remarks on the nature and value of the collection, which the owner was understood to say would be presented to the Botanical Department of the British Museum.

The President exhibited and described two curious examples of associated ants and plants, namely, *Iridomyrmex caudatus*, with *Myrmecodia beccari* and *Camponotus planatus*, with *Pseudomyrma belti*, the plant being *Acacia hindsii*.

Mr. J. E. Harting exhibited some shells of *Planorbis corneus*, which had been found by the river-side at Weybridge, and which from some unascertained cause were curiously bisected. Alluding to the piscivorous habits of the Water Shrew, *Sorex fodiens*, he suggested that it might be the work of this little animal. Mr. A. D. Michael thought it likely to be the result of frost, the lower half of each shell being preserved by being imbedded in or adherent to the frozen mud.

Referring to a MS. letter of Dr. Stephen Hales (the author of 'Vegetable

Statics,' and a friend and neighbour of Gilbert White), which was exhibited by Mr. G. Murray, an excellent engraved portrait of him was exhibited by Mr. Harting, who made a few remarks upon his life and work. As this portrait was not to be found amongst the 600 engravings of 'Scientific Worthies,' lately presented to the Library by the late Lord Arthur Russell, he offered it for the acceptance of the Society.

On behalf of Mr. H. N. Ridley, Director of the Gardens and Forests Department, Singapore, the Secretary read a paper dealing with all the *Orchideæ* hitherto recorded from Borneo. In the discussion which followed Mr. C. B. Clarke made some interesting remarks on the distribution of these plants in the Indian and Indo-Malay Regions, and on the way in which a knowledge of the species had been gradually acquired and extended.

On behalf of Mr. R. Spruce (whose unexpected death the Society had recently to deplore), Mr. A. Gepp read a paper on the *Hepaticæ* collected by Mr. W. R. Elliott in the islands of St. Vincent and Dominica, and took occasion to describe in some detail the nature and extent of Mr. Spruce's work, which he characterised as a most careful and excellent contribution to botanical science. The paper was accompanied by a series of minute and beautiful drawings.

January 18th.—Mr. W. CARRUTHERS, F.R.S., V.-P., in the chair.

Messrs. T. B. Cato, W. Elborne, and R. E. Leach were admitted, and the following were elected:—Sir Hugh Low, Messrs. G. B. Rothera and Thomas Sim.

The Chairman, before proceeding to the business of the evening, referred to the loss which the Society had sustained by the recent death of Mr. Richard Spruce, who had travelled and collected much in South America, and who was the recognised authority on *Hepaticæ*. It was much to be regretted that having but lately presented to the Society a valuable paper on this subject, containing descriptions of a great number of new species, and illustrated with careful and beautiful drawings, he had not lived to see the published result of his labours.

The Chairman also referred with regret to the death of Mr. Algernon Peckover, of Wisbeach, who had been a Fellow since 1827, and who by his will had bequeathed to the Society a legacy of £100.

Mr. E. M. Holmes exhibited a flowering specimen of a new species of *Cascarilla* (*C. Thomsoni*) and the bark of the tree, from New Grenada; also two new foreign sea-weeds, *Gelidium Beckeri*, from South Africa, and *Leptocladia Binghamia*, from California, and three new British marine Algæ, viz. *Entophysis granulosa* and *Symplaca atlantica*, from Swanage, collected by himself, and *Vaucheria coronata*, from Arbroath, collected by Mr. J. Jack.

Mr. Thomas Christy exhibited and made observations upon some remarkably long tendrils of *Landolphia Kirkii*, which served as an illustration to a paper subsequently read by Mr. Henslow.

Mr. J. E. Harting exhibited and made some remarks upon the plant-débris ejected in the form of "pellets" or "castings" by Rooks, and stated that a number of these pellets which had been examined were composed of the cuticles of the succulent roots of the couch-grass, *Triticum repens*, commonly called "scutch," "squitch," and "twitch" grass, a most troublesome weed to the farmer. Mr. Harting also exhibited a rare Australian duck, *Stictonetta navosa*, Gould, which had been obtained at Gippsland Lake, Victoria, and of which very few examples were to be found in collections.

A paper was then read by the Rev. G. Henslow, M.A., on the origin of the structural peculiarities of climbing stems by self-adaptation in response to external mechanical forces. The purport of this paper was to prove by an appeal to facts and experiments the existence of the power in living protoplasms of responding to external and purely mechanical forces by enveloping supportive tissues, by means of which the plant is enabled to resist the effects of gravity, tensions, pressures, &c. In the case of climbers, not only is this principle illustrated wherever a force is felt; but whenever a stem is relieved of a force atrophy or arrest of mechanical tissues takes place, supplemented, however, by an increase in the number and size of vessels. The conclusion arrived at was that while, on the one hand, the peculiar structures of climbers are all the outcome of a response to the external mechanical forces acting directly upon the stems, such structures are precisely those which are most admirably suited to the requirements of the stems themselves. The variations of structure characteristic of species, genera, and orders of climbing plants have been thus acquired in a definite direction, viz. of direct adaptability, this being effected, according to Mr. Darwin's statement, "without the aid of natural selection." The paper was criticised by Dr. D. H. Scott, Prof. Reynolds Green, and Mr. G. Murray, who, while testifying to the number of interesting facts brought forward by Mr. Henslow to support his views, were yet unable to agree with him in some of his conclusions. The paper was illustrated by a great variety of specimens and drawings, and was listened to with considerable interest by a very full meeting.

ZOOLOGICAL SOCIETY OF LONDON.

January 16th, 1894.—Sir W. H. FLOWER, K.C.B., LL.D., F.R.S., President, in the chair.

The Secretary read a report on the additions that had been made to the Society's Menagerie during the month of December, 1894.

Mr. Sclater exhibited and made remarks on a drawing of the head of a Monkey, *Cercopithecus erythrogaster*, in the Paris Museum, forwarded to him by M. Pousargues, of that institution.

An extract was read from a letter received from Mr. C. B. Mitford, describing an invasion of Locusts observed at Free Town, Sierra Leone. Mr. C. O. Waterhouse had referred the specimens of these insects sent home to *Pachytylus migratoroides*. A further extract from the same letter gave an account of the occurrence of Elephants in the district of Sierra Leone.

Mr. R. Lydekker gave an account of some of the principal objects observed during his recent visit to the La Plata Museum, calling special attention to the splendid series of remains of Dinosaurian Reptiles, of Cetaceans, and of Ungulates of three different suborders. Mr Lydekker also made remarks on some of the specimens of Edentates and of the gigantic birds of the genus *Brontornis*, and further exhibited a painting of the head of a Wild Goat, *Capra ægagrus*, of unusual size.

On behalf of Mr. J. Jenner Weir, a specimen of the Tsetse Fly, *Glossinia moristans*, from the Transvaal was exhibited.

Mr. Tegetmeier exhibited a curiously barred variety of the Common Pheasant.

A communication was read from Prof. W. N. Parker, containing remarks on some points in the structure of the young of the Australian Echidna.

A communication was read from Mr. Roland Trimen, giving an account of a collection of Butterflies made in Manica, Tropical South-east Africa, by Mr. F. C. Selous in the year 1892. Of 166 species represented in the series, 44 were stated to be of general distribution, and of the remainder (amongst which were 9 apparently new to science) 26 were peculiar to the South-Tropical area of Africa.

A communication received from Dr. A. B. Meyer contained remarks on a rare African Monkey, *Cercopithecus wolffi*, accompanied by a coloured drawing.

Dr. A. Günther gave an account of a collection of Reptiles and Fishes made by Dr. J. W. Gregory during his expedition to Mount Kenia. The collection contained examples of thirty-seven species of Reptiles, nine of Batrachians, and thirteen of Fishes. Several species of Reptiles were new to science, amongst which were two new Lizards—*Bunocnemis modesta*, g. et sp. n., of the family *Geckotidæ*, with imbricate scales and large, scattered conical tubercles on the hinder part of the hind limbs; and *Agama gregorii*, to *A. cyanogaster*, but with lateral, not tubular nostrils. Six new fishes allied were also characterized and named:—*Chromis niger*, *C. spilurus*, *Alestes affinis*, *Labio gregorii*, *Barbus tanensis*, and *B. taitensis*.—P. L. SCLATER, Secretary.

ENTOMOLOGICAL SOCIETY OF LONDON.

January 17th, 1894.—The 61st Annual Meeting.—Mr. Frederic Merrifield, Vice-President, in the chair. An abstract of the Treasurer's accounts, showing a balance in the Society's favour, having been read by Mr. J. Jenner Weir, one of the Auditors, the Secretary, Mr. H. Goss, read the Report of the Council. It was then announced that the following gentlemen had been elected as Officers and Council for 1894:—President, Mr. Henry J. Elwes, F.L.S.; Treasurer, Mr. Robert McLachlan, F.R.S.; Secretaries, Mr. Herbert Goss, F.L.S., and the Rev. Canon Fowler, M.A., F.L.S.; Librarian, Mr. George C. Champion, F.Z.S.; and as other Members of the Council, Mr. Walter F. H. Blandford, M.A., F.Z.S., Mr. Charles J. Gahan, M.A., Mr. Frederic Merrifield, Prof. Edward B. Poulton, M.A., F.R.S., Colonel Charles Swinhoe, M.A., F.L.S., Mr. George H. Verrall, Mr. James J. Walker, R.N., F.L.S., and the Right Hon. Lord Walsingham, LL.D., F.R.S. Mr. Merrifield then read the President's Address, in which, after alluding to the principal events of the past year, and the prosperous condition of the Society, he referred to the additions which had been made in 1893 to the literature of Entomology, calling attention to the 'Butterflies of China and Japan,' by Mr. J. H. Leech; the 'Moths of India,' by Mr. G. F. Hampson; the 'Butterflies of North America,' by Mr. W. H. Edwards; 'Lepidoptera Indica,' by Dr. F. Moore; and the continuation of the 'Biologia Centrali-Americana,' by Messrs. F. D. Godman, F.R.S., and Osbert Salvin, F.R.S. He also commented on the recent publications of the Grand Duke Nicholas Mikhailovitch, Mons. Charles Oberthür, and Dr. Staudinger, on the Continent. The President concluded by referring to the losses by death during the year of several Fellows of the Society and other Entomologists, special mention being made of Prof. H. A. Hagen, M.D., the Rev. Leonard Blomefield, M.A., Mr. A. C. Horner, M.R.C.S., Prof. J. Wood-Mason, the Rev. Henry Burney, M.A., Mr. J. C. Bowring, F.L.S., the Rev. F. O. Morris, B.A., Mr. J. Batty, Mr. Francis P. Pascoe, F.L.S., Herr Eduard Honrath, and Dr. Adolph Speyer. A vote of thanks to the President for his Address was proposed by Colonel Swinhoe, seconded by Mr. Jenner Weir, and carried unanimously. Mr. Merrifield replied for the President. Lord Walsingham proposed a vote of thanks to the Officers of the Society; this was seconded by Mr. Waterhouse, and carried unanimously. Mr. McLachlan and Mr. Goss replied, and the proceedings terminated.—H. Goss, *Hon. Sec.*

NOTICES OF NEW BOOKS.

The Tercentenary Edition of the Complete Angler, or Contemplative Man's Recreation. By IZAAK WALTON & CHARLES COTTON. Edited, with Notes from a Naturalist's point of view, by J. E. HARTING. 2 vols. 4to. London: Bagster & Sons. 1893.

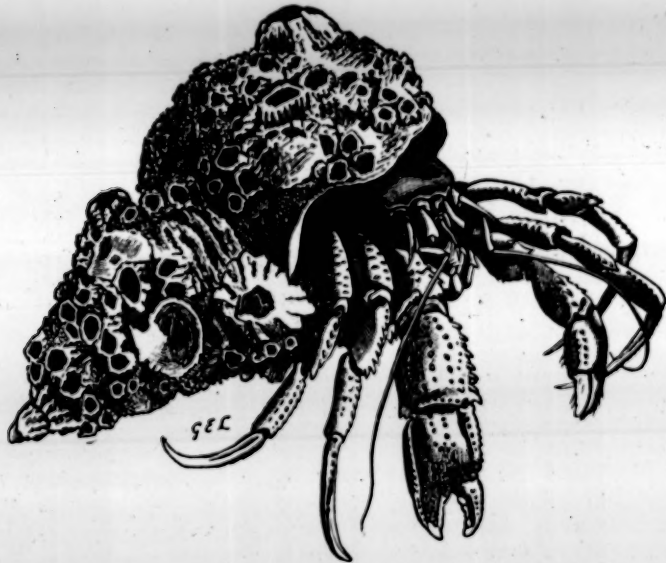
SOME years ago, when noticing the publication of a facsimile reprint of this esteemed book (Zool. 1882, pp. 357-360), we gave a list of the various editions which were then known to exist, and which at that time, on the authority of Messrs. Westwood and Satchell, were said to number no less than eighty-seven. Since that review appeared there have been several fresh issues, including a beautiful reprint of Major's edition published by Messrs. Nimmo and Bain in 1883, with original etchings, and all the illustrations laid down on india-paper. Then we have had Mr. Robert Marston's handsome quarto, and one or two others of less importance.

It is curious to note how, in all these editions, the natural history lore of Izaak Walton has been neglected. His critics, as perhaps was only natural, have been fishermen who looked at the practical value of the book, although others, like Sir John Hawkins and Sir Harris Nicholas, have shown considerable literary research in their annotations, dealing with a variety of subjects that have little or no connection with fishing, beyond the fact that some allusion is made to them by Walton. And yet there is a good deal in the book to attract the curious naturalist, especially if his tastes incline to the antiquarian side of natural history, and he have some acquaintance with old authors. To such a one it is pretty evident that Walton was not what would be termed in these days an observant out-door naturalist. He used his eyes, no doubt, so far as they served his purpose as an angler; but most of his ideas about animals and plants seem to have been derived from the books he read rather than from actual observation. He was truly a "contemplative man," and turned his reading to account. Such books as Dr. Philemon Holland's translation of 'Pliny' and of Camden's 'Britannia,'

Bacon's 'Sylva,' Topsell's 'Historie of Four-footed Beastes,' Sylvester's translation of 'Du Bartas,' Drayton's 'Polyolbion,' Gerard's 'Herbal,' Montaigne's 'Essays,' and Dr. Hakewill's 'Apology or Declaration of the Power and Providence of God in the Government of the World,' were amongst his favourite authors; and from these and others he borrowed and paraphrased as occasion suggested, sometimes with acknowledgment, sometimes without. His want of knowledge as a naturalist often led to his quoting fable as fact, and to his confounding the habits of one animal with those of another of quite a different species. At the same time his knowledge of zoology and botany must be gauged, not by our standards of the present day, but by the state of knowledge on those subjects put in evidence by the authors from whom he quoted.

To give Izaak Walton his due in this respect, to show the extent of his acquirements as a naturalist, and to point out some of the errors into which he has fallen, may be said to constitute the *raison d'être* of the present edition, which marks the tercentenary anniversary of the author's death and the centenary of the publishing house of Bagster. It may be observed that so long ago as 1808, Mr. Samuel Bagster published an edition of the 'Complete Angler,' which was edited by Sir John Hawkins and was so well received that several issues of it appeared, both in quarto and octavo. The notes to that edition, though sometimes very discursive, and even irrelevant, are in other passages very much to the point and worth quoting at the present day, as the reader of the new edition will find. The same publisher, many years ago, commissioned Hayter to visit Salisbury for the purpose of copying the excellent portrait of Walton by Housman, which forms the frontispiece to the first volume of the present edition. He also accompanied John Linnell to Ashbourn, in Derbyshire, to copy the portrait of Charles Cotton by Sir Peter Lely, which forms the frontispiece to the second volume of this work, Linnell availing himself of the opportunity to sketch some of the charming scenery amidst which Izaak Walton and his friend Charles Cotton were in the habit of fishing together. From these sketches Mr. Percy Thomas has produced some beautiful etchings which, printed on Japanese vellum, form most appropriate illustrations to the volumes before us. It may be a matter of opinion amongst art critics whether it was worth while to

re-issue in this edition Audinet's engravings from Wale's pictures, seeing that they are neither new, nor altogether free from defects; but it may be observed that they have been so admirably printed on vellum, at the Ballantyne Press, as to give them a *cachet* which they never had before, and so to make the very best of them.



THE HERMIT CRAB, *Eupagurus bernhardus*, IN SHELL OF WHELK ENCRUSTED WITH BARNACLES.

Then we have Mr. George Lodge's pretty text-cuts of river-side animals and birds, produced with a fidelity which is only possible where the wood-blocks are drawn and engraved by the same hand. This is a gift which very few artists possess, and seeing that it obviates all risk of misinterpretation, is to be valued accordingly. The Heron flying with characteristic flap of wing, the Bittern cowering amongst the sedge, the Polecat which loves to track the Eel at night through the wet riverside grass,* the Marten which haunts the rocky and wooded glen through which the trout-stream runs, the Hermit Crab which seeks seclusion in the empty shell of a Whelk, and the Lark and Nightingale which delight the listening ear of the fisherman, are

* See 'The Zoologist,' 1891, p. 292.

all here faithfully portrayed, with others, in their natural and characteristic attitudes.

This is not the place, for obvious reasons, wherein to criticise the editor's annotations, but it may be of interest to mention a few of the subjects alluded to by Izaak Walton which in this new edition have elicited comment, explanation, or elucidation.



THE MARTEN, *Martes sylvatica*.

There is a pretty allusion (vol. i. p. 47) to "the honest Robin that loves mankind both alive and dead," referring of course to the old notion of the Redbreast covering the dead with leaves which has been noticed by Shakespeare in 'Cymbeline,' and by John Webster in the lines—

" Call for the Robin Redbreast and the Wren,
Since o'er shady groves they hover,
And with leaves and flowers do cover
The friendless bodies of unburied men."

Auceps, in his enumeration of the several kinds of hawks used by falconers (p. 50) includes "the *Stelletto* of Spain, the *Blood-red Rook* from Turkey, the *Waskite* from Virginia." What species are referred to by these names? and where did Walton find allusion to them? Perhaps some of our readers can supply this information.

It is not surprising that he should describe a Whale as a fish (pp. 59 and 69), seeing that many persons so regard it even at the present day, in spite of all the science-teaching in schools.

Again, who is "the ingenious Spaniard" (p. 67) who says that "rivers and the inhabitants of the watery element were made for wise men to contemplate, and fools to pass by without consideration?" The sentiment has been generally attributed to Juan Valdesso, but is not to be found in his 'Considerations,' which was translated at Oxford by Farrar in 1638.

Some of the "many strange creatures collected by John Tradescant, and others added by my friend Elias Ashmole, Esq., who now keeps them carefully and methodically at his house near to Lambeth, near London," are described (p. 71). They were subsequently removed to the Ashmolean Museum at Oxford, and are mentioned in a catalogue of the collection entitled 'Museum Tradescantium,' printed in 1656, or three years after the publication of the first edition of 'The Complete Angler.'

The Cuttle, *Sepia officinalis*, is curiously confounded with the Angler-fish, *Lophius piscatorius*, of which an illustration is given (p. 74), to remove misconception. The habits of the Hermit Crab, *Eupagurus bernhardus*, of which also a figure is given, and here reproduced, are thus quaintly noticed:—

"And there is a fish called a Hermit, that at a certain age gets into a dead fish's shell, and like a hermit dwells there alone, studying the wind and weather, and so turns her shell that she makes it defend her from the injuries that they would bring upon her."

The habits of the Otter are perhaps more copiously described than those of any other animal mentioned by Walton, and a characteristic and quite unconventional figure of the beast, by Mr. G. E. Lodge, is given (p. 92) from life. Of course, Walton's idea about the use of the herb *Benione* to keep away Otters from fish-ponds (vol. i. p. 92; vol. ii. p. 64, n.), was derived from Topsell's 'Historie of Four-footed Beastes,' 1607, which, in turn, was mainly a translation of Gesner's 'Historia Animalium.'

The antiquity of fish-hooks is alluded to (vol. i. pp. 65, 80), as also of fish-bowls for keeping fish in dining-rooms (p. 110). Five years before the date of Walton's fifth edition, viz. in 1671, Dr. Martin Lister published 'A Table of Spiders found in England,' enumerating "thirty and three kinds." Walton, who quotes this fact, would be astonished (were he living now) to know that in Great Britain alone more than 500 species have been described.

The caterpillars of the Privet Hawk-moth, *Sphinx ligustri*, and of the Puss-moth, *Dicranura vinula*, are fairly well described, sufficiently so, at least, for identification.

Amongst some of the fables retailed we find, of course, the story of the supposed generation of Barnacle Geese from the cirrhiped *Lepus anatifera*, as noted by Du Bartas:—

7 “So rotten planks of broken ships do change to barnacles,” and by Gerard, in his ‘Herbal,’ and Camden, in his ‘Britannia.’ So also we note the allusion to the belief that “Hares change sexes” (i. p. 173).

The distribution of the Grayling in English rivers is discussed (i. p. 183), with a note elucidating the subject, and an interesting point is raised (p. 188) as to when the Salmon became extinct in the Thames. The vexed questions affecting the reproduction of Eels, and of Snakes swallowing their young in time of danger, are fully dealt with in foot-notes by the editor (ii. p. 2, and i. p. 203), and, in view of the authorities quoted and evidence adduced, may be said to set these matters at rest.

As to the plants, the notes furnished on lady-smocks and culver-keys (ii. 28), candocks (ii. 63), willow-catkins (ii. 185), reates, roits, or water-crowfoot (ii. 63), pickerel-weed (i. 194, 204), hops (i. 215), and many other species, show that in this old fishing-book the botanist may find almost as much to entertain him as the zoologist.

It is a curious and remarkable fact that Izaak Walton nowhere quotes Shakespeare, although the latter died in 1616, and the first folio edition of his plays was published in 1623, or thirty years before the appearance of ‘The Complete Angler.’

This omission cannot be due to the absence of allusions to fish and fishing by the bard of Avon, for Walton might have referred to ‘Twelfth Night’ (ii. 5), where Maria, on the appearance of Malvolio, exclaims, “Here comes the Trout that must be caught with tickling,” and to the song of Caliban in ‘The Tempest’ (ii. 2), “No more dams I’ll make for fish,” as well as to the lines in ‘Much Ado’ (iii. 1):—

“The pleasantest angling is to see the fish
Cut with her golden oars the silver stream,
And greedily devour the treacherous bait.”

But Shakespeare, although a "contemplative man," seems to have found but little "recreation" in fishing, and it is perhaps on this account that Walton has evinced no appreciation of his immortal verse. Michael Drayton, however, his "honest friend," is often quoted.

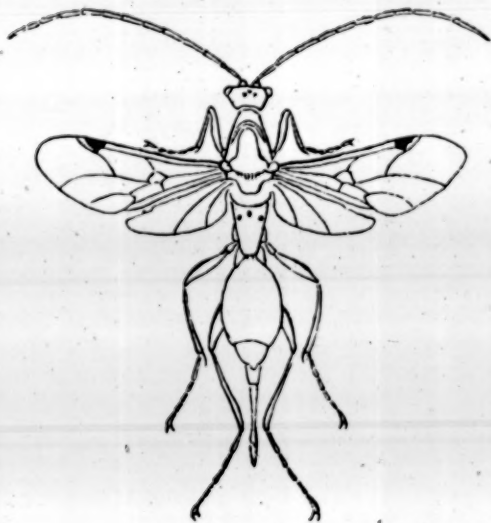
Monograph of the North American Proctotrypidæ. By WILLIAM H. ASHMEAD. Bulletin of the United States Natural History Museum, No. 45. 8vo, pp. 472. With eighteen plates. Washington Government Printing Office. 1893.

THE *Proctotrypidæ* are considered by some authorities to be closely allied to the *Chalcididæ*, and in a systematic arrangement of the hymenopterous families usually follow them in our manuals and catalogues. Mr. Ashmead, however, who in this volume has worked out the species found in America north of Mexico, considers that they have but little affinity with the *Chalcididæ*, and that this arrangement is unnatural. They are in every respect, he believes, more closely allied to the Hymenoptera-Aculeata, the *Chrysididæ*, *Scoliidæ*, *Mutillidæ* and *Thynæidæ*, while in the Terebrantia they approach closest to the parasitic *Cynipidæ* (*Allotria*, *Eucoila* and *Figites*). In a natural arrangement, therefore, he considers they should be placed at the head of the Terebrantia, for after the removal of the group *Mymarinae*, which (agreeing with Halliday) he regards as forming a separate and distinct family allied to the *Chalcididæ*, there is no relationship with the last named. With the *Mymarinae* removed, there will be no difficulty in distinguishing at a glance a Proctotrypid from a Chalcid. In all true Proctotrypids the pronotum extends back to the tegulæ, and the ovipositor issues from the tip of the abdomen, the sheaths, except in a few abnormal cases, being conjoined and forming a more or less cylindrical tube or scabbard for the reception of the two spiculæ and the ovipositor proper; whereas in all Chalcids the pronotum never extends back to the tegulæ, and the ovipositor issues far anterior to the tip of the abdomen, reposing in a central slit or groove, while the sheaths are always distinctly separated, never conjoined.

From the families of the Aculeata they are separated by having (except in a few cases) 2-jointed trochanters, and in

venational and antennal characters. All Aculeate Hymenoptera, with few exceptions, have the antennæ 12-jointed in the female, and 13-jointed in the male, while in the *Proctotrypidæ* such is not the case; either both sexes have the same number of joints, or a less or greater number in the opposite sex.

Before dealing with the systematic description of the divisions, genera and species, Mr. Ashmead enters very fully upon a description of the external structure, habits of the perfect insects, transformations or life-history, distribution and classification, subjects which occupy the first thirty pages of the volume.



PROCTOTRYPES, Latreille.

Then follow detailed descriptions of all the species, with the *habitats*, and an indication, in nearly every case, of the collection in which the type or types are to be found. The volume concludes with several pages of bibliography, which the reader will find extremely useful.

As a piece of thorough good work, and a valuable contribution to entomology, it may be recommended as a model to future monographers.

The Birds of Derbyshire. By F. B. WHITLOCK; annotated with numerous additions by A. S. HUTCHINSON, Taxidermist to the Derby Museum. 8vo. Pp. 239. With a Map and Six Illustrations. London and Derby: Bemrose & Co. 1893.

MR. WHITLOCK's name will be well known to the readers of this journal as that of an enthusiastic ornithologist, and his zeal has prompted him to try and write a book about the birds of his county. This very laudable design he has carried out, no doubt to the best of his ability; but it seems to us that his book might have been very much better if he had not been in such a hurry to publish it. It is evident that he had not sufficient materials for the purpose, as may be gathered from two or three circumstances. We have been surprised to find no reference to the most important collection in Derbyshire, that of Sir Vauncy Crewe at Calke Abbey, a collection which includes many very noteworthy birds obtained in the county; while in his endeavour to extend his list of species, Mr. Whitlock seems to have travelled quite outside the limits of the area he had to deal with, and has recorded a number of rarities that, upon his own showing, were not obtained in Derbyshire.

For instance, he includes specimens of the Glossy Ibis and Purple Heron which were killed in Staffordshire and Notts, and a Hen Harrier which was shot on the moors near Macclesfield in Cheshire. The Hawfinch is stated to "breed regularly near Sheffield, a few miles from the boundaries of Derbyshire"; and a pair of Smews in the author's possession came from Beeston Rylands in Nottinghamshire. Doubtless the boundaries of a county are more or less artificial, and as it is impossible to set a limit to a bird's flight, it is in some cases highly probable that a species may have sojourned for some time within the county in question, and be subsequently killed beyond the boundary. But to entitle it to a place in the local avifauna, some more direct evidence of its occurrence within the county limits is desirable.

Again, we have evidence here and there that Mr. Whitlock is but imperfectly acquainted with several of the localities of which he writes, some of which even he does not appear to have visited. For example, he refers on page 8 to Lathkill Dale as "treeless," whereas it is well wooded for two or three miles on one side, and for some distance on the other.

But making allowance for such shortcomings, which in a first attempt perhaps are inevitable, we must do Mr. Whitlock the justice to admit that he has brought together in one volume a number of scattered records relating to the birds of his county which will be of interest to Derbyshire folk, and of utility to ornithologists for the purpose of comparison with lists from other counties. It is to be hoped that this book will attract the attention of those who will be able to give him much further information, and so enable him in a future edition to make his record much more complete than it is at present.

Les Coquilles des Eaux Douces et Saumâtres de France. Descriptions des familles, genres et espèces. Par ARNOULD LOCARD, Roy. 8vo. Pp. 327. With 302 figures. Paris: Baillière et Fils. 1893.

IN 'The Zoologist' for 1892 (pp. 447, 448), we noticed a former work by M. Locard on the marine shells of France, published in that year. The present volume, which is uniform in size, type, and style of illustration, deals with the fresh-water and brackish-water species. It is well printed, copiously illustrated, and contains detailed descriptions, not only of all the species usually recognized in French waters, but of a large number of varieties which have been elevated (as it seems to us, unwisely), to the rank of species, and named accordingly. Many of these, we should say, are merely individual variations, and to treat them as if they were so many distinct species, is to create considerable difficulty for the student of conchology. The differences in many cases are so slight, that even after a careful perusal of the descriptions, and a comparison of the figures, it is almost impossible to find sufficiently well-marked characters to warrant distinction.

It would have been preferable, we think, to place these varietal forms upon a different footing, and to treat them as local races, or at most as subspecies, provided always that they present characters which are constant and sufficiently well marked to be appreciable.

We are quite unable to accept the view (as M. Locard would have us do) that there are, for example, 127 species of *Limnæa*,

or 227 species of *Unio* to be found in the rivers and pools of France. Doubtless we have to recognize the fact that these two forms are extremely variable, but once we begin to describe individual differences, we commence a task which may have no ending.

M. Locard's method, it is true, makes us acquainted with a larger number of described forms than are to be found in the works of his predecessors, but this does not mean any great advance in the science.

Moreover, although M. Locard describes the shells very minutely, he ignores the animals inhabiting them. Had he selected a typical species for example in each genus, and given us a description of the mollusc, with some account of its mode of life and reproduction, he would have added considerably to the value of his treatise.

As it is, he has produced a book rather for the shell-collector than for the naturalist, and might have made it even more useful to the former, had he described the sort of situation in which each species is to be found. It is not enough to say of *Physa acuta*, for example, "commun; presque partout, surtout le centre et le Midi." The collector wants to know *whereabouts* to look for it; whether in stagnant water, or running streams; whether buried in the mud from which it must be dredged; crawling amongst the herbage on the bank; or adhering, perhaps, to the under side of the leaves of some *Nymphæa*, *Nuphar*, or other water-plant.

As to the figures in the text, of which there are about 300, they have been carefully drawn, no doubt; but many of them, as *Limnæa* and *Physa* are, as one may say, "un peu trop solide." We miss the delicacy, lightness, and semi-transparency which characterise these shells, and serve to distinguish them at a glance amongst their fellows.

On the whole, then, we are disappointed with M. Locard's book, though we cannot but admire his great power of discernment, and the extraordinary industry which he has displayed in collecting and describing so large a number of shells.

